



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,698	02/23/2004	Timothy W. Womer	3522.26	1315
7590	12/01/2005		EXAMINER	
Robert J. Herberger McLaughlin & McNally 500 City Centre One PO Box 507 Youngstown, OH 44501-0507			SORKIN, DAVID L	
			ART UNIT	PAPER NUMBER
			1723	
DATE MAILED: 12/01/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

48

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/784,698	WOMER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	David L. Sorkin	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### **Status**

- 1) Responsive to communication(s) filed on 23 February 2004.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### **Disposition of Claims**

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-6, 9-16 and 18 is/are rejected.
- 7) Claim(s) 7, 8, 17, 19 and 20 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### **Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### **Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### **Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 23 February 2004.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 5, 6 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Owens (US 5,148,512). Regarding claim 1, Owens ('512) discloses an apparatus comprising a barrel (6) formed of material having a first coefficient of thermal conduction (note that Figs. 1 and 3 use the official recognized hatching symbol for plastic to show that the barrel is plastic; see MPEP 608.02), including a wall extending axially and laterally and having an inner surface, the wall having a thickness formed with mutually spaced holes extending at least partially through the thickness; and conductors (11) having a second coefficient of thermal conduction greater than the first coefficient (the conductors are made of aluminum; see col. 4, line 59), each conductor located in and engaging a hole (see Figs. 1 and 3). Regarding claim 5, the holes are mutually spaced and arranged in staggered axially directed rows being mutually offset laterally, and the holes are staggered in laterally directed columns with adjacent columns being mutually offset axially (see Figs. 1-3). Regarding claim 6, each hole is a cylinder and each

conductor is a cylinder or stepped cylinder (see Fig. 3). Regarding claims 9-12, Owens ('512) discloses a conductor (11) made of aluminum (see col. 4, line 59).

3. Claims 1-4, 6, 9-12, 14-16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuehne (US 215,372). Regarding claim 1, Kuehne ('372) discloses an apparatus comprising a barrel (A) formed of material having a first coefficient of thermal conduction (see paragraph 5), including a wall extending axially and laterally and having an inner surface, the wall having a thickness formed with mutually spaced holes extending at least partially through the thickness; and conductors (d,e) having a second coefficient of thermal conduction greater than the first coefficient (the conductors are made of copper; see paragraph 6), each conductor located in and engaging a hole (see drawing). Regarding claim 2 a rotatable screw is located within the inner surface, including an axial core (F) and a main fluid (E) arranged helically on, and extending radially from the core, and including a push surface for urging material to move along the barrel as the screw rotates (see drawing). Regarding claims 3, 4 and 9-12, the barrel is made of steel (see paragraph 5, and the conductors are copper (see paragraph 6). Regarding claim 6, each hole is a cylinder and each conductor is a cylinder or cylinder (see drawing). Regarding claim 14, Kuehne ('372) discloses an apparatus comprising a barrel (A) formed of a material (see paragraph 5) having a first coefficient of thermal conduction, including a wall surrounding a cavity, the wall extending axially and laterally, having an outer surface and an inner surface, and a thickness containing mutually spaced holes extending at least partially through the thickness (see drawing); and a rotatable screw located within the cavity, including an axial core (F), and a main

flight (E) arranged helically on, and extending radial from the core, and including a push surface for urging material to move along the barrel as the screw rotates (see drawing); and a plurality of conductors (d,e) having a second coefficient greater than the first coefficient (the conductors are made of copper; see paragraph 6), each conductor located in and engaging a hole (see drawing). Regarding claims 15 and 16 the barrel is made of steel (see paragraph 5, and the conductors are copper (see paragraph 6). Regarding claim 18, each hole is a cylinder and each conductor is a cylinder or cylinder (see drawing).

4. Claims 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Blais (US 2,313,315). Blais ('315) discloses a conductor made of oxygen-free copper (see column 2 of page 2, lines 64-69).

5. Claims 9-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Korpan et al. (US 2005/0082038). Korpan ('038) discloses a conductor made of oxygen-free copper (see [0024]).

#### ***Allowable Subject Matter***

6. Claims 7, 8, 17, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 571-272-1148. The examiner can normally be reached on 9:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David L. Sorkin  
Primary Examiner  
Art Unit 1723

DLS